

**TOP FY 2000  
Project Narrative**

**Round Valley Indian Health Center**

**Grant # 06-60-00034  
Covelo, CA**

## **PROJECT PURPOSE**

### **Needs Assessment:**

Target population: The Round Valley Indian Health Center is located in the remote Round Valley area of northern Mendocino County. It provides the only local medical services to residents of the Round Valley Indian Reservation and the (unincorporated) township of Covelo. First established in 1856, Round Valley is one of the largest and oldest reservations in California. The reservation land base consists of 1,700 acres of valley and over 32,000 acres of surrounding mountainous terrain (a total of 35,522 acres). It is the ancestral home of the Yuki, Pit River, Pomo, Little Lake Pomo, Concow, Wailaki, Nomalaki and Wintun nations. **(See Appendix A & B for location maps)**

The total area population is 2,800; of which 1,029 are Native American (32% of the total population). According to the 1990 U.S. Census, there are 177 Native American households in the area (Total tribal enrollment is 3,013 all of whom are eligible for treatment at the RVIHC although their primary residence may be elsewhere). Of the non-tribal population approximately 1800 (93%) are Caucasians and 6.7% are Hispanics.

### **Community needs/health problems:**

Persons living in the Round Valley area are at-risk because of a combination of existing geographic, socioeconomic, and cultural barriers severely limiting access to services and thus negatively impacting health morbidity and mortality. The entire population of Mendocino County has been designated as a Medically Under served Population (MUP). The RVIHC service area has also been designated as a Primary Medical Care Health Professional Shortage Area (HPSA) and as a Frontier-Rural Medical Service Area (6 or less persons per square mile) by the California Department of Health Services. Compared to other counties in California, Mendocino County is ranked high (above 29 out of 58) for most of the Healthy People 2000 health status indicators ranked ordered by increasing rates. As reported in the 1998 Mendocino Community Health Status report (Mendocino County Department of Public Health), the County ranked 54<sup>th</sup> for strokes; 55<sup>th</sup> for all cancers; 51<sup>st</sup> for suicides; 52<sup>nd</sup> for infant mortality; and 58<sup>th</sup> for late prenatal care and 58<sup>th</sup> for not-adequate prenatal care.

Risk factors are even greater for valley residents separated by excessive distance from all in-patient facilities and specialist providers. The nearest hospital, in Willits (45 miles and one hour's drive distant) is the main source for inpatient services. Acute medical, surgical and OB care must be sought from providers outside the Valley at facilities and from specialists found in Ukiah (60 miles), Santa Rosa (125 miles), Sacramento (185 miles), and Fort Bragg (70 miles) and often involves between four and eight hours of travel time.

Severe poverty also impacts the health status of area residents. The work force is primarily agricultural, with limited job opportunities available in logging and tribal

employment. The local economy has not yet rebounded from the closure of the Louisiana Pacific logging facility in 1981. 28.9% of all households in Round Valley are receiving public assistance. Per capita income is \$9,448, with 26% of residents living below poverty (as compared to 14% for Mendocino County and 12% in the State). For Native Americans living in Round Valley the economic conditions are even more severe. According to Census data, per capital income for Native Americans is only \$5,010; and 36.2% of Native Americans (compared to 20.3% of Whites, and 18.3% Hispanics) are living below poverty. A further indicator of area poverty is 100% of students are eligible for free or reduced lunches.

According to data derived from the Resource Patient Management System (RPMS) used by RVIHC and nationwide by Indian Health Services, there were 8,146 medical visits in 1999. The top ten Purpose of Visits for Center clients indicate a high number of visits for hypertension, diabetes, upper respiratory infection, child exams and osteo-arthritis. A 1996 Needs Assessment Survey conducted by the Round Valley Indian Health Center further identified some of the personal concerns and socio-economic issues of the local population. **Tables are provided in Appendix C ranking the top major health concerns;** ranking the top health care service needs; and ranking the top community problems and the most serious problems in meeting health-related needs. Repeatedly, concerns regarding lack of transportation, financial problems and lack of employment availability in the area are reported by respondents.

### **Proposed Solution:**

Round Valley Indian Health Center is coordinating a community-wide project to plan and develop a Telehealth and Telemedicine network utilizing video conferencing, web based services, and store-and-forward medical equipment. The network will coordinate the use of technology among partners in the Valley as well as establish links to out-of-area service providers. The program will test strategies for introducing the technology to hard-to-reach community members and methods for training end-users on how to use the technology. Our vision is to fully utilize the Telehealth and Telemedicine network to provide comprehensive health and human services in the Valley.

During the next three years we will achieve the following project goals:

**Goal #1:** Convene regular meetings of the Round Valley Telehealth and Telemedicine Project team for purposes of coordinating the on-going planning, utilization, and evaluation of a local Telehealth and Telemedicine network linked to out of services via telecommunications technology.

**Goal #2:** Establish and operate video conferencing studios (at 3 sites) in the Round Valley area in order to provide area residents with increased access to specialty health and human service providers located outside the area.

**Goal #3:** Install and utilize at RVIHC selected store-and-forward medical equipment in order to expand services available locally by utilizing telecommunications technology to link with out-of-area medical providers.

**Goal #4:** Set-up and operate (initially 3 learning kiosks at locations in Round Valley that will provide the most at-risk area residents greater access to health education, information, and services utilizing web-based technology and resources.

**Goal #5:** Document information on implementation of the Round Valley Telehealth and Telemedicine Project in order to develop a model that can be replicated among rural communities with special populations and multiple barriers to comprehensive medical services.

**Expected Outputs:**

1. Increase by 5% each year (over year 2000 baseline rates) the number of clients who comply with individual health care plans and successfully access behavioral and other specified health services from out-of-area providers utilizing video conferencing services available at RVIHC.
2. Increase by 10% each year (over year 2000 baseline rates) the total number of appointments successfully completed utilizing video conferencing services available from all network partners linking area clients with out-of-area specialty providers.
3. Expand by 5% each year (over year 2000 baseline rates) the number of client visits recorded for the purpose of receiving specialized medical exams and screenings utilizing new specialty equipment available at RVIHC linking local providers with out-of-area specialist.
4. Increase by at least 10% each year (after installation and training of end-user population during the first year) the number of clients utilizing web-based services to access information, use e-mail, as well as other network services at learning kiosks set up at community locations in the Valley.
5. Increase by 10% each year (after introduction during first year) the rate of utilization of in-home monitoring equipment by RVIHC clients in order to increase communication with RVIHC providers and with other potentially linked institutions/sites (such as a hospital room or convalescent care room).

**Expected Outcomes:**

1. Improvement in health outcomes for clients with increased access to testing and screening services on-site at RVIHC via specialized Telemedicine equipment linked to out-of-area specialty service providers.
2. Improvement in mental health outcomes due to increased health care plan compliance, early detection, and prevention efforts by clients who utilize video conferencing services from studio sites in the Valley.

3. Improvement in client satisfaction regarding quality and extent of services available in the Valley as a result of implementation and utilization of network services.
4. Stabilization and strengthening of local system of health care as a result of increased ability to recruit and retain local providers because of greater access to peer support, distance learning and specialty consultations via Telehealth and Telemedicine network.
5. Reduced transportation costs for non-Indian clients and reduced transportation costs for RVIHC (responsible for picking up transportation costs for Native American clients) whenever Telehealth and Telemedicine services are successfully accessed in the Valley.
6. Development of a cost-effective Telehealth and Telemedicine network with specific components capable of replication in other isolated rural communities with multiple barriers to quality care and services.

The operation of the Round Valley Telehealth and Telemedicine Project Network will greatly facilitate collaboration and coordination among stakeholders seeking to improve quality of care and increase services where there are currently huge gaps. In addition, both the client population and local service providers will benefit as end-users of the local network linking area and out-of-area providers and establishing access to interactive web-based resources. (Appendix D has several descriptive examples of how the network might work for end-users seeking specific services.)

## **7. INNOVATION**

There are several aspects of the Round Valley Telehealth and Telemedicine Project that are innovative. Locally, the development of a community-wide collaborative partnership to assess community needs, establish the network, and coordinate introduction and delivery of Telehealth and Telemedicine services is unique. Normally, individual organizations in the service area develop their client services independently.

Furthermore, this project will develop strategies to introduce and utilize new technologies to meet the demand for cost-effective delivery of services to a population historically underserved and neglected by out-of-area providers. In doing so, it will expand use of teleconferencing technologies and introduce use of new store-and-forward medical equipment linking area providers and their clients with out-of-area specialists and service providers.

The Round Valley Indian Health Center also has a unique role in the local partnership. Under contract with the Indian Health Service to provide health services to Native Americans in the Round Valley area, RVIHC is also linked to the 35 other clinics serving Native Americans in California, as well as other Indian Health Clinics nationwide. The Project Coordinator (with assistance from IHS) will develop a manual reporting insights and information on utilizing Telehealth and Telemedicine network technologies to better

serve Native American living in rural communities. This manual will be a valuable new tool for introducing telecommunications technology and special medical services based on the technology to this targeted population.

The program will also develop and test new strategies for introducing services to the most difficult to reach at-risk populations in the area. For example, clients of the local Parenting Center will be initially introduced to the Telehealth and Telemedicine network by accessing WIC (women, infant, and children) nutritional services via video conferencing technology. After successfully utilizing these specific services the client will be introduced to the availability of information from web-based information kiosks and will be provided introductory training at the Parenting Center on how to use the system for accessing health information. Clients will establish e-mail accounts so they can interact with on-line information providers or receive newsletters and other information.

## **8. DIFFUSION POTENTIAL**

Partners participating in development and implementation of the Round Valley Telehealth and Telemedicine Project will have several opportunities to extend their knowledge and experience to other rural communities in northern California and beyond. The network will establish a Project web-site from which to post and publish reports for general dissemination. In addition, the Project Coordinator will write a manual for distribution to other clinics seeking to provide integrated services to Native Americans living in rural California communities (as described previously).

Individual staff, including Project Coordinator, Technical Consultant, local site coordinators, and service providers will all have unique experiences and information to share in different venues, including at local Mendocino County meetings, at statewide conferences and gatherings, and at national conferences focused on Telehealth and Telemedicine technology. In particular, staff will plan to attend meetings focused on the management of information systems convened by organizations serving Native Americans, including the California Indian Health Board, the Indian Health Service, as well as meetings of local and regional tribal associations and other organizations specifically serving this population.

As services are implemented over the next three years, the Project Coordinator will coordinate efforts to seek ways to outreach and expand use of Telemedicine services to other clinics adjacent to the Round Valley service area. One way to expand services is to travel with portable store-and-forward and scoping equipment to other clinics on a regular schedule to give their providers and clients access to specialist services. For example, Laytonville, a community located 40 miles southwest of Round Valley, has a federally-funded community health center serving a community with many of the same needs and barriers to health care that exist in Round Valley, as well as a large Native American community residing nearby on the Larytonville Rancheria.

## **9. PROJECT FEASIBILITY**

The Round Valley Telehealth and Telemedicine Project will establish an integrated service network in the Valley, linking local providers and their clients to out of area specialists and other service providers. **Appendix E is a description of all local**

**Partners** working together to plan, implement, and monitor the provision of Telehealth and Telemedicine services in the area. It includes specific program information as well as the technical requirements and equipment available to the Project from each organization. The collaborative includes all the major community-based organizations providing local services including the Round Valley Indian Health Center, Round Valley Unified School District, the Parenting Center, Eel River Charter School, Round Valley Tech Prep and Vocational Education Program, Mendocino County Office of Education, and the Mendocino County Department of Health. In addition, the Indian Health Service California Area Office is actively involved in planning and implementation of all services to area Native Americans and thus they are active partners in on-going development and evaluation of Telemedicine services to this special population.

Access to specialist services will be provided via the University of California/Davis Health System's Rural Telehealth Unit utilizing state of the art video-based Telemedicine services. Technical assistance on system set-up, development of a local collaborative, and training of providers and other service coordinators (on how to use equipment and instruct end-users) will all be provided by staff of the Telemedicine Learning Center also located at UC Davis. In addition, staff of the Learning Center will also actively participate in the design and set-up of the program evaluation, working with area network partners to establish a data collection system and identify evaluation strategies.

See **Appendix F** for a complete description of the full range of Telehealth and Telemedicine services available from UC Davis.

The following new services will be provided in the area during the first three years of program development. Additional services will be developed based on the information and experiences gathered during set-up and implementation of specific system components.

- Install a studio at RVIHC and provide video conferencing services at the clinic for providers and their clients. Identify and develop (two) additional locations in the area to install and use video conferencing technology for integrated Telehealth and Telemedicine services. The existing video conferencing systems available at the Round Valley Indian Education Center and the Mendocino Office of Education will also be incorporated into the local service network.
- Purchase, install, and maintain specialty medical equipment at RVIHC in order to expand services available to providers and their clients by accessing out of area providers via the telecommunications network. The following examination and screening equipment will be purchased and used for program services: dermatology camera; Ophthalmoscope; ENT scope; flexible nasao-pharyngeal scope; dermascope; documents camera; illumination unit and coupler; and x-ray

scanner (to digitalize the film to send over the Internet). Future possibilities include purchase retinal imaging equipment that is so desperately needed for services to our diabetic population. The price of a camera (\$31,000/unit) makes this out of reach initially. We will apply to the California Telehealth and Telemedicine Programs new grant program which will assist Indian Health Clinics

- in developing Telemedicine based diabetic retinopathy screening programs when the RFP becomes available.
- Purchase and maintain in-home video monitoring units to connect client with RVIHC service providers. The unit can also be used to link family members to clients staying at a hospital or other care center out of the immediate area.
- Establish (3) learning kiosks at community-based locations in the service area in order to provide the most at-risk area population greater access to health information, education, and services available with web-based technology.

**Appendix G is a schematic diagram** illustrating how the proposed Round Valley Telehealth and Telemedicine system will operate and link together. **Appendix H is a Program Implementation Plan** and includes a projected timeline for the grant period October 1, 2000 – December 31, 2002.

The Round Valley Indian Health Center is the major local hub for the Telehealth and Telemedicine network services. The program has a good chance for success because of the strong leadership provided by the RVIHC Board of Directors representing the needs of the local Native American community, as well as strong end-user supports by the organization's medical care providers. See **Appendix I** for a letter from RVIHC's Medical Director. In addition, **Appendix J** traces the history of development of the telecommunications system at RVIHC as well as recent developments in setting up the local infrastructure capable of providing comprehensive Telehealth and Telemedicine services.

The Project Coordinator (Steve Viramontes) is currently Director of Outreach at RVIHC, and in this capacity has been actively involved in planning and set-up of the existing telecommunications system at the clinic. He has received training on program development from UC Davis Telemedicine Learning Center and will provide valuable leadership in motivating other local partners. In addition, RVIHC has recruited locally a Computer Technical Consultant with experience in systems development. He has also received training from UC Davis Telemedicine Learning Center on selection, installation, testing and maintenance of telecommunications equipment. See **Appendix K for staff resumes**. Also included in **Appendix L are position descriptions** for the two primary staff positions. These descriptions will be used to recruit replacement staff if it is required during the project period.

The project has the potential to evolve into a unique rural community health care model because of the combination of resources and technical support available through the local community partnership. All share a common vision to improve health care services and the quality of life for all residents in Round Valley. As the program unfolds each



organization will be able to assess the impact of the new technology and services on their constituency and will be expected to assign appropriated financial support for continuation of the Telehealth and Telemedicine Program in their annual budgets.

The total Round Valley Telehealth and Telemedicine Project Budget is \$291,243. \$55,268 will be provided via cash donations from RVIHC. A (non-federal) grant totally \$78,000 is submitted and pending (April 1 notification). In-kind donations of equipment and services from collaborating partners are valued at \$12,700. A total of \$145,275 in matching funds is requested from the Technology Opportunities Program in this application submitted to the Department of Commerce. **A complete budget breakdown and budget justification is provided in Attachment Form 424A.**

## **15. COMMUNITY INVOLVEMENT**

The Project Coordinator has actively recruited a number of local community organizations and service providers committed to development of the Telehealth and Telemedicine Network. The process included assessing each organization's interest in the project; preliminary discussion of how clients/end users might benefit from proposed services; a preliminary assessment of available resources, additional needs for special equipment, and requirements for training. A basic implementation plan was developed from this information. **Appendix M (#1-9) has letters to participate in the project** from partners already recruited into the program.

During the project period the team will convene monthly to continue planning and development of the Telehealth and Telemedicine system. In the first 6 months of the project the team will further develop immediate project goals, define roles and responsibilities among members; prioritize implementation services, and complete an expanded feasibility study to determine equipment interfaces and finalize a schematic of how the technical network will be linked. During the second half of the first year, the Project Team will determine how to resolve issues related to privacy, confidentiality, an transfer of patient records. They will also work with an outside evaluator to establish data collection points and strategies for collecting and reporting program data.

## **16. REDUCING DISPARITIES**

The Round Valley Telehealth and Telemedicine Project will greatly reduce geographic isolation faced by the service area population with development of a local network to fully utilize video conferencing technology linked area providers and their clients to out-of-area specialists and other service providers. Travel time and costs related to accessing services out-of-area will be greatly reduced for individuals and organizations utilizing Telemedicine video conferencing services at three locations in the area: (1) RVIHC; (2) Indian Education Center; (3) Parenting Center. Furthermore, services will be provided at locations in the community frequented by the most at-risk individuals, such as the Parenting Center, where individuals can receive WIC services from the Mendocino County Department of Public Health, providing access "with a purpose" to first introduce individuals to the network system. Web-based information kiosks will also be located at

RVIHC and the Parenting Center to facilitate introduction and training on Internet service access among the most at-risk population.

## **17. EVALUATION AND DOCUMENTATION**

The Project Coordinator will coordinate data collection and program documentation activities performed by partners under the direction of an outside evaluator provided by the UC Davis Telemedicine Learning Center. The independent evaluator will assist the local partnership with setting up evaluation criteria, design of collection tools, and development of a integrated system to facilitate the flow of data and information between all project participants. Primarily, data collected on utilization of new services will be used to evaluate outcome performances as established for yearly program goals. (See **Appendix N: Preliminary Evaluation Plan**). During the first year, data reporting the number of persons receiving behavioral consultations, specialized medical services, and other services by out-of-area providers will be collected to establish base line data to measure against in upcoming years. A variety of data collection techniques will be employed including end-user surveys, focus groups, interviews with local stakeholders and analysis of raw data compiled and reported by individual service providers.

RVIHC has also focused in recent years on assessment of community needs in order to plan for new facilities and additional services. In 1996, Indian Health Service funded and provided RVIHC with technical resources to design and complete a comprehensive community-wide health needs assessment. **Appendix C** is a compilation of survey highlights defining community satisfaction with services as well as perception of service needs. This survey will be updated during year three of the proposed project in order to define current attitudes toward utilization of services, identify existing problems/barriers to care, and assess satisfaction with the quality and extent of services available in the area.